



Contour Surface Coal Mines, West Virginia

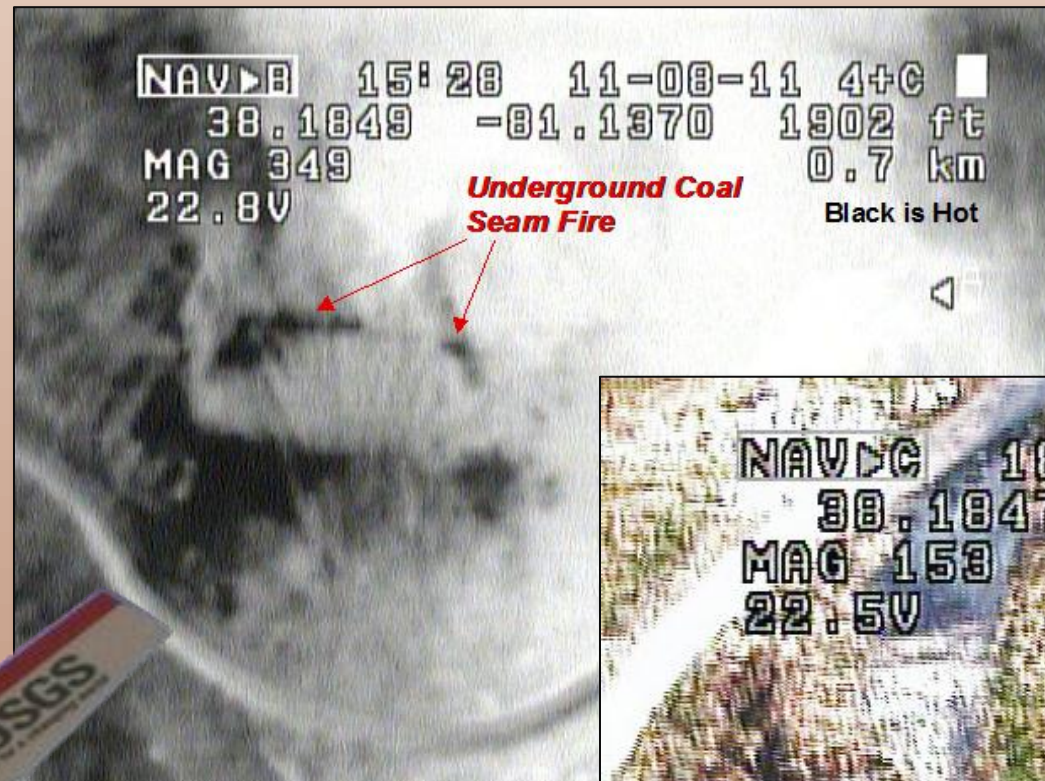
Inspecting Coal Mining Permits using Unmanned Aircraft Systems

November 7-8, 2011



West Virginia Coal Seam

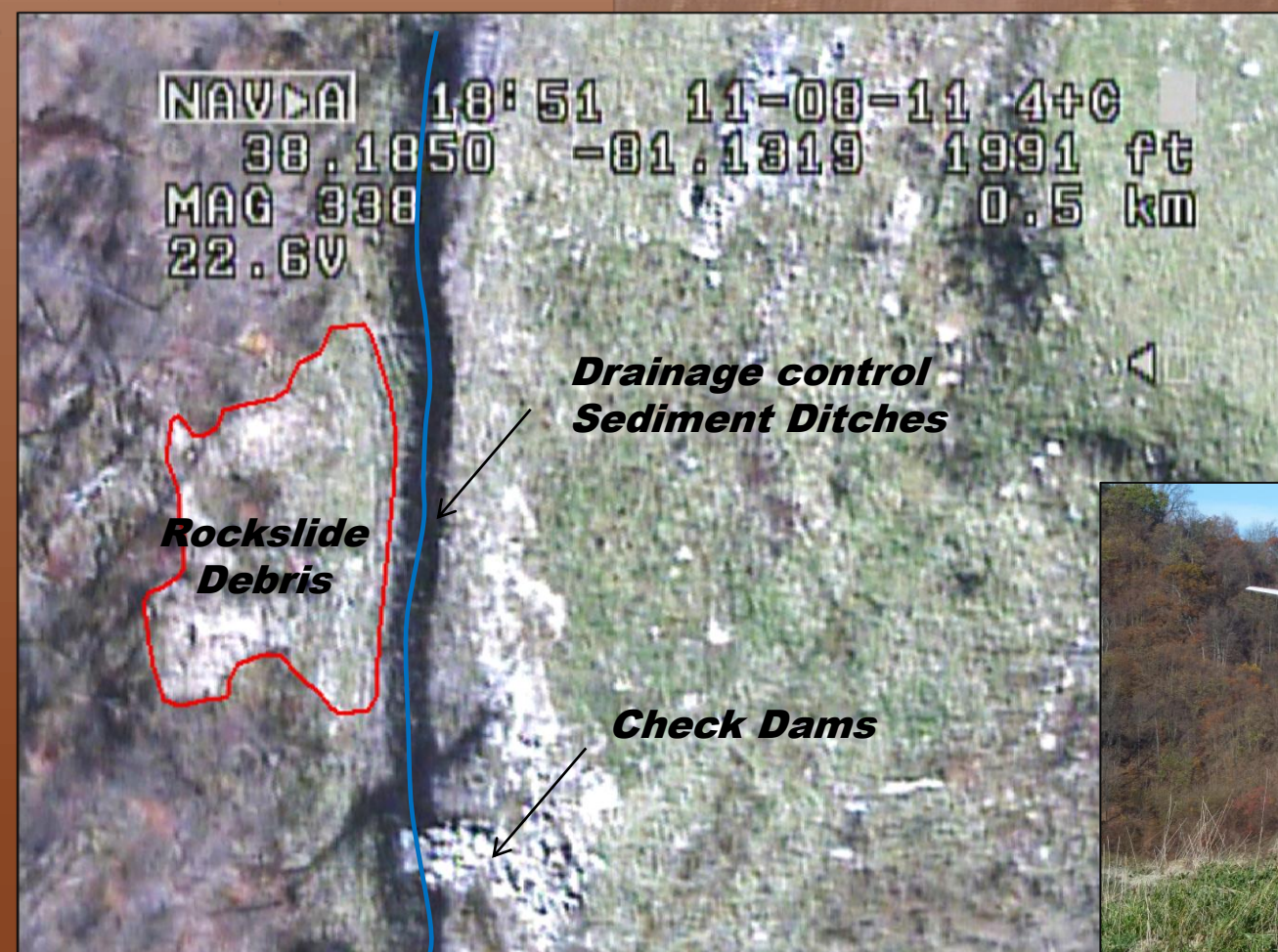
The Office of Surface Mining (OSM) inquired about the possible use of UAS technology provided by the USGS to help with permitted inspections of dangerous mines and mines with difficult areas of access. The success of OSM is measured as a percentage of no offsite impacts, outside the mine permit boundaries.



Underground coal seam fires can pose serious hazards to health and safety



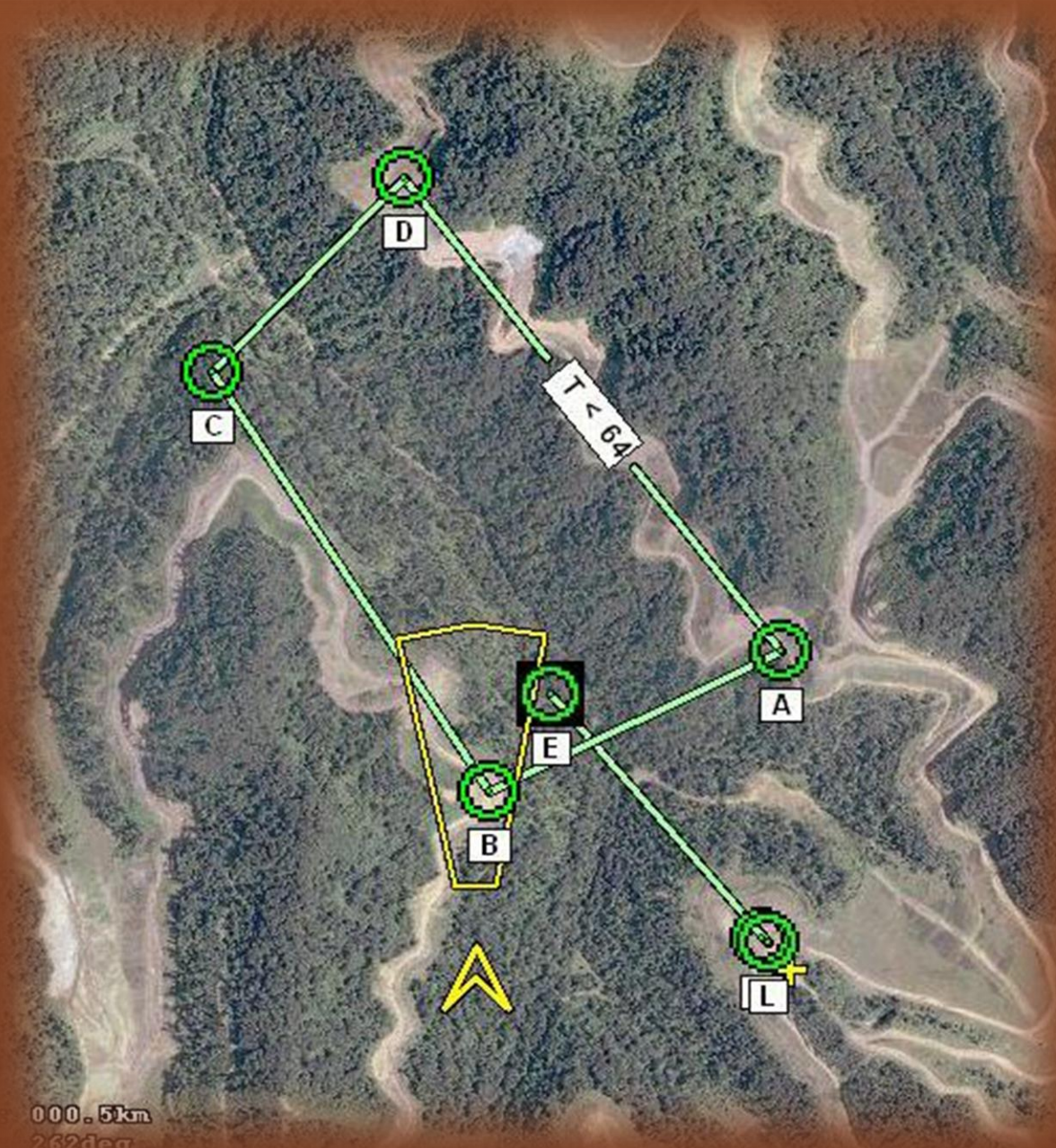
Inspectors are interested in locating landslide debris outside of permitted mining boundaries



Inspections for proper surface run off are also conducted



Above: USGS Raven operator hand launches the aircraft



UAS Raven flight plan of contour mine gives real time feedback to inspectors

The Department of the Interior - U.S. Geological Survey, the Office of Surface Mining, the Aviation Management Directorate, in coordination with the Federal Aviation Administration, performed the fifth small Unmanned Aircraft System proof-of-concept operation inspecting contour surface mines to improve inspector safety and efficiency. For more information: <http://uas.usgs.gov>

